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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,589	07/29/2002	Jinhua Huang	124615	5120

23413 7590 03/29/2004

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EXAMINER

VARGAS, DIXOMARA

ART UNIT	PAPER NUMBER
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2859

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/064,589	Applicant(s) HUANG ET AL.	
	Examiner Dixomara Vargas	Art Unit 2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-10 and 12-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-10 and 12-30 is/are rejected.
- 7) ☒ Claim(s) 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
3. Claims 1-3 5-10, 12-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki et al. (US 6,275,128 B1) further in view of Rapoport (US 6,670,877 B2).

With respect to claims 1, 6, 16 and 28, Aoki discloses a magnetic field shimming system for an MRI magnetic field generating assembly, the magnetic field shimming system comprising (Figure 2, #10): a plurality of shims secured relative to a surface of the magnetic field generating assembly (Figures 1 and 2; #15) to at least partially correct inhomogeneities in a magnetic field generated by the magnetic field generating assembly (Abstract), said plurality of shims being

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arranged along a plurality of concentric geometric shapes (Columns 3-4, lines 65-67 and 1-7 respectively)

Aoki discloses the claimed invention as stated above except for the concentric geometric shapes each having at least five sides. However, Rapoport discloses said shapes being pentagon, hexagon, heptagon or octagon (Columns 6-7, lines 66-67 and 1-4 respectively; Figures 9 and 10). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Rapoport's teachings about the shimming means geometries with Aoki's magnetic field shimming system for an MRI magnetic field generating assembly for the purpose of allowing a maximum opportunity and variation for adjusting the strength and uniformity of the magnetic field as shown by Rapoport (Column 7, lines 15-25).

4. With respect to claims 2 and 7, Aoki discloses at least one shim in said plurality of shims is directly coupled to said surface (Figures 1-2).

5. With respect to claims 3 and 8, Aoki discloses said plurality of shims are secured relative to said surface by a shim holder (Figure 2, #13).

6. With respect to claims 5, 9, 10, 12, 15, 17 and 20, Aoki discloses at least one shim in said plurality of shims is a flat plate of magnetic material, said flat plate including a top edge, a bottom edge, side edges (Figure 2, #14 and #11), and face surfaces (Figure 2, #13), and wherein said at least one shim (Figure 2, #12) is arranged such that said bottom edge is a proximal portion of said flat plate relative to said surface (Figure 2), said top edge is a distal portion of said flat plate relative to said surface, and said face surfaces are aligned with a direction of the magnetic field generated by the magnetic field generating assembly (Figures 1-2).

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7. With respect to claims 13 and 18, Aoki discloses selecting a height of said at least one shim to at least partially correct inhomogeneities in the magnetic field generated by said magnetic field generating assembly, said height being a distance between said top edge and said bottom edge (Columns 3-4, lines 49-67 and 1-7 respectively).
8. With respect to claims 14 and 19, Aoki discloses selecting a width of said at least one shim to at least partially correct inhomogeneities in the magnetic field generated by said magnetic field generating assembly, said width being a distance between said side edges (Columns 3-4, lines 49-67 and 1-7 respectively).
9. With respect to claims 21-23, see rejection of claims 1 and 4 above.
10. With respect to claim 24, Aoki discloses said at least one shim (Figure 2, #12) is secured relative to said surface by a shim holder (Figure 2, #13), said shim holder including a holder disk having a slot disposed therein, said slot receiving said at least one shim (Figure 2).
11. With respect to claim 25, Aoki discloses said shim holder further includes a cover disk to secure said shim within said slot of said holder disk (Figure 2, #14).
12. With respect to claim 26, Aoki discloses said at least one shim is secured directly to said surface (Figure 2).
13. With respect to claim 27, see rejection of claims 1 and 12 above.
14. With respect to claim 29, Aoki discloses each of said plurality of shims have a shape other than the shape of said plurality of concentric geometric shapes (Column 3, lines 53-63).
15. With respect to claim 30, Aoki discloses said plurality of shims arranged along one of said plurality of concentric geometric shapes includes a permanent magnet, a magnetic material

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other than a permanent magnetic, or any combination comprising at least one each of the foregoing materials (Column 3, lines 53-63).

Allowable Subject Matter

16. Claim 31 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

17. Applicant's arguments filed 12/19/03 have been fully considered but they are not persuasive.

18. Applicant argues the following: "Rapoport discloses a field adjusting mechanism for MRI systems that utilizes a shim block 186 having channels 188 of varying shapes, where the shims (shim blocks 186) are of regular polygonal shape, such as hexagons, pentagons, octagons or irregular or singular shapes that are fitted within the correspondingly shaped channels 188. (Paragraph (00012, E0060 and (00612, and Figures 8-10. (Emphasis added). As referenced, Aoki and Rapoport are notably absent a plurality of shims arranged along a plurality of concentric geometric shapes each having at least five side, and are notably absent at least one shim of the plurality of shims having face surfaces aligned with a direction of the magnetic field generated by the magnetic field generating assembly."

19. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the shims

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having at least five sides) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). It is pointed out that if applicant intended to claim, that the shapes of the shims are of at least five sides instead of the geometric arrangement of the shims being of at least five sides, said limitation is not positively recited in the claim and the specification cannot be read into the claims.

Conclusion

20. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

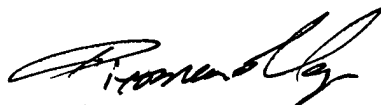
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dixomara Vargas whose telephone number is (571) 272-2252. The examiner can normally be reached on 8:00 am. to 4:30 pm..

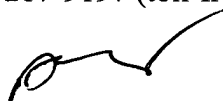
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dixomara Vargas
Art Unit 2859
March 19, 2004



Diego Gutierrez
Supervisory Patent Examiner
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